

01 ~~Sub D2~~
ppm / .5 ppm.

1 2. (Original) The apparatus of claim 1, wherein said plurality of zones have different gas flow
2 rates.

1 3. (Twice Amended) Apparatus comprising:

2 ~~Sub D2~~
3 a sterilization tunnel for surrounding a plurality of containers with pressurized
4 gas;

5 a sterilant supply source to supply sterilant into the sterilization tunnel;

6 ~~C2~~ a control system, operatively attached to a plurality of sterilant concentration

7 zones within the sterilization tunnel, for automatically adjusting the operational parameters of the

8 tunnel, wherein the sterilant concentration levels vary by at least a ratio of .1 ppm / .5 ppm;

9 at least one gas supply source to supply the pressurized gas into the sterilization

10 tunnel; and

at least one gas exit to allow the pressurized gas to escape the sterilization tunnel.

1 ~~Sub D2~~ 5. (Twice Amended) The apparatus of claim 3, further comprising at least one partition forming
2 the plurality of sterilant concentration zones within the sterilization tunnel.

1 6. (Original) The apparatus of claim 3, wherein the gas is sterile air.

1 7. (Original) The apparatus of claim 3, wherein the sterilant is hydrogen peroxide.

1 8. (Original) The apparatus of claim 3, further including a product filler and a lidding apparatus
2 opening into a sterile zone of the sterilization tunnel.

1 9. (Original) The apparatus of claim 8, wherein the concentration of the sterilant hydrogen
2 peroxide is less than .5 ppm in the sterile zone.

1 10. (Original) The apparatus of claim 3, further including an interior bottle sterilization
2 apparatus opening into a sterile zone of the sterilization tunnel.

1 11. (Original) The apparatus of claim 10, wherein the concentration of the sterilant hydrogen
2 peroxide is about 1000 ppm in the sterile zone.

1 12. (Original) The apparatus of claim 3, further including an activation and drying apparatus
2 opening into the sterilization tunnel.

1 13. (Original) The apparatus of claim 12, wherein the concentration of the sterilant hydrogen
2 peroxide is about 3 ppm.

1 14. (Original) The apparatus of claim 3, further including a bottle discharge apparatus opening
2 into the sterilization tunnel.

1 15. (Original) The apparatus of claim 14, wherein the concentration of the sterilant hydrogen
2 peroxide is about .1 ppm.

1 16. (Original) The apparatus of claim 3, wherein the containers are bottles.

1 17. (Thrice Amended) Apparatus comprising:

2 a sterilization tunnel for surrounding a plurality of containers with pressurized
3 gas;

4 a sterilant supply source to supply sterilant into the sterilization tunnel;

5 a plurality of zones having a plurality of gas nozzles within the sterilization
6 tunnel;

7 at least one partition forming a plurality of sterilant concentration zones within the
8 sterilization tunnel wherein the sterilant concentration levels vary by at least a ratio of .1 ppm / .5
9 ppm;

10 at least one gas supply source to supply the pressurized gas into the sterilization
11 tunnel; and

12 at least one gas exit to allow the pressurized gas to escape the sterilization tunnel.

1 18. (Original) The apparatus of claim 17, further including at least one partition forming gas
2 flow zones.

1 19. (Original) The apparatus of claim 18, wherein each partition comprises openings for

2 allowing objects to pass through each partition.

1 20. (Original) The apparatus of claim 17, wherein the pressurized gas is sterile air.

1 21. (Original) The apparatus of claim 17, wherein the sterilant is hydrogen peroxide.

1 22. (Original) The apparatus of claim 17, further including an activation and drying apparatus
2 opening into a first of said gas flow zones.

1 23. (Original) The apparatus of claim 22, wherein sterile air enters the first gas flow zone at a
2 rate of about 2400 cfm.

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2 24. (Amended) The apparatus of claim 23, wherein sterile air exits the first gas flow zone at a
rate of about 1500 cfm.

1 25. (Original) The apparatus of claim 23, wherein sterile air exits the first gas flow zone at a rate
2 of about 1500 cfm.

1 25. (Original) The apparatus of claim 17, further including a product filler and a lidding
2 apparatus opening into a second of said gas flow zones of the sterilization apparatus.

1 26. (Original) The apparatus of claim 25, wherein sterile air enters the second gas flow zone at a

2 rate of about 1000 cfm.

1 27. (Original) The apparatus of claim 17, further including a bottle discharge apparatus opening
2 into a third of said gas flow zones of the sterilization tunnel.

1 28. (Original) The apparatus of claim 27, wherein sterile air exits the third gas flow zone at a
2 rate of about 100 cfm.

1 29. (Original) The apparatus of claim 17, further including a bottle infeed and sterilization
2 apparatus with an opening into a fourth gas flow zone of the sterilization tunnel.

1 30. (Original) The apparatus of claim 29, wherein sterile air enters the infeed and sterilization
2 apparatus at a rate of about 1800 cfm.

1 31. (Original) The apparatus of claim 29, wherein sterile air from the infeed and sterilization
2 apparatus together with the fourth gas flow zone exits the infeed and sterilization apparatus at a
3 rate of about 3600 cfm.

1 32. (Original) The apparatus of claim 17, wherein the containers are bottles.

33. (Twice Amended) A method comprising:

providing a sterilization tunnel for surrounding a plurality of containers with

3 pressurized gas;
4 introducing sterilant from a sterilant supply source into the sterilization tunnel;
5 providing a plurality of sterilant concentration zones within the sterilization tunnel
6 wherein the sterilant concentration levels vary by at least a ratio of .1 ppm / .5 ppm;
7 providing at least one partition for forming said sterilant concentration zones;
8 introducing pressurized gas from at least one gas supply source into the
9 sterilization tunnel; and
10 allowing the pressurized gas to escape the sterilization tunnel.

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1 35. (Amended) The method of claim 33, further comprising providing a control system
2 operatively attached to the plurality of sterilant concentration zones within the sterilization
3 tunnel.

1 36. (Original) The method of claim 33, wherein the step of introducing gas further comprises
2 introducing sterile air.

1 37. (Original) The method of claim 33, wherein the sterilant is hydrogen peroxide.

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1 38. (Amended) Apparatus comprising:
2 means for providing a plurality of containers in a sterilization tunnel;
3 means for providing a plurality of sterilant concentration zones within the